

Peculiar Conditions of Metals

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and also by Dr. Mitchell of Philadelphia ² in 1830. It seems very probable that if such a substance as spongy platina were used, another law for the diffusion of gases under the circumstances would come out than that obtained by the use of plaster of Paris.

396. I intended to have followed this section by one on the secondary piles of Ritter, and the peculiar properties of the poles of the pile, or of metals through which electricity has passed, which have been observed by Ritter, Van Marum, Yelin, De la Rive, Marianini, Berzelius, and others. It appears to me that all these phenomena bear a satisfactory explanation on known principles, connected with the investigation just terminated, and do not require the assumption of any new state or new property. But as the experiments advanced, especially those of Marianini, require very careful repetition and examination, the necessity of pursuing the subject of electro-chemical decomposition obliges me for a time to defer the researches to which I have just referred.

November 30, 1833.

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§ 5. ON ELECTRO-CHEMICAL DECOMPOSITION, CONTINUED.⁴ ^f
^{iv.} ON SOME GENERAL CONDITIONS OF ELECTRO-DECOMPOSITION.
ⁱ V. ON A NEW MEASURER OF VOLTA-ELECTRICITY. ^f VI.
 ON THE PRIMARY OR SECONDARY CHARACTER OF BODIES EVOLVED IN ELECTRO-DECOMPOSITION. ^j VII. ON THE DEFINITE NATURE AND EXTENT OF ELECTRO-CHEMICAL DECOMPOSITIONS. § 7. ON THE ABSOLUTE QUANTITY OF ELECTRICITY ASSOCIATED WITH THE PARTICLES OR ATOMS OF MATTER

Preliminary

397. THE theory which I believe to be a true expression of the facts of electro-chemical decomposition, and which I have therefore detailed in a former part of these Researches, is so much at variance with those previously advanced, that I find the

¹ * *Quarterly Journal of Science*, vol. xxviii. p. 74, and *Edinburgh Transactions*, 1831.

² *Journal of the Royal Institution* for 1831, p. 101.

³ Seventh Series, original edition, vol. i. p. 195.

¹ Refer to the note after 783, Part VI.—December 1838.